

Private Sector Experiences With Reducing Energy Intensity

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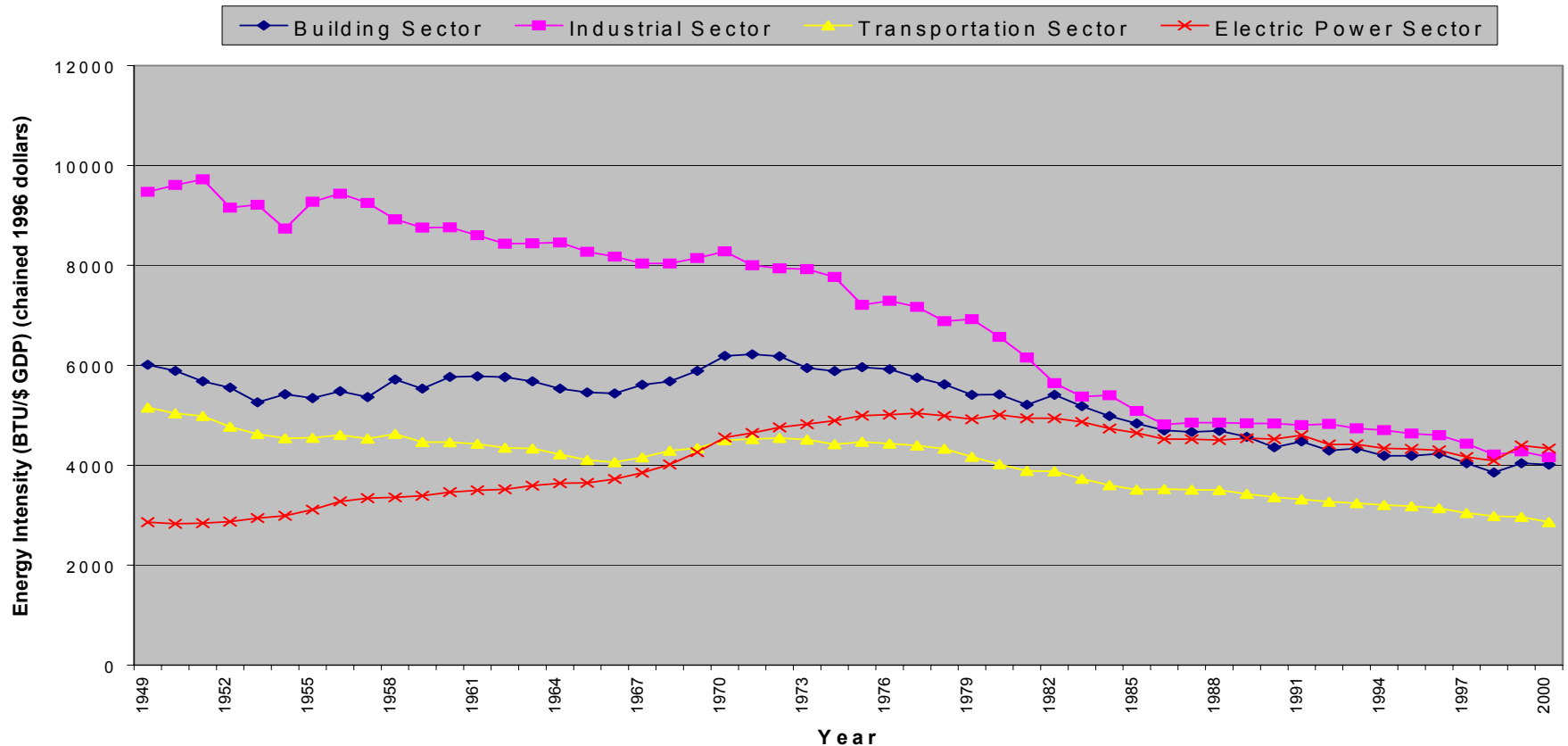
Ford Motor Company

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Energy Intensity by Sector (1949-2000)



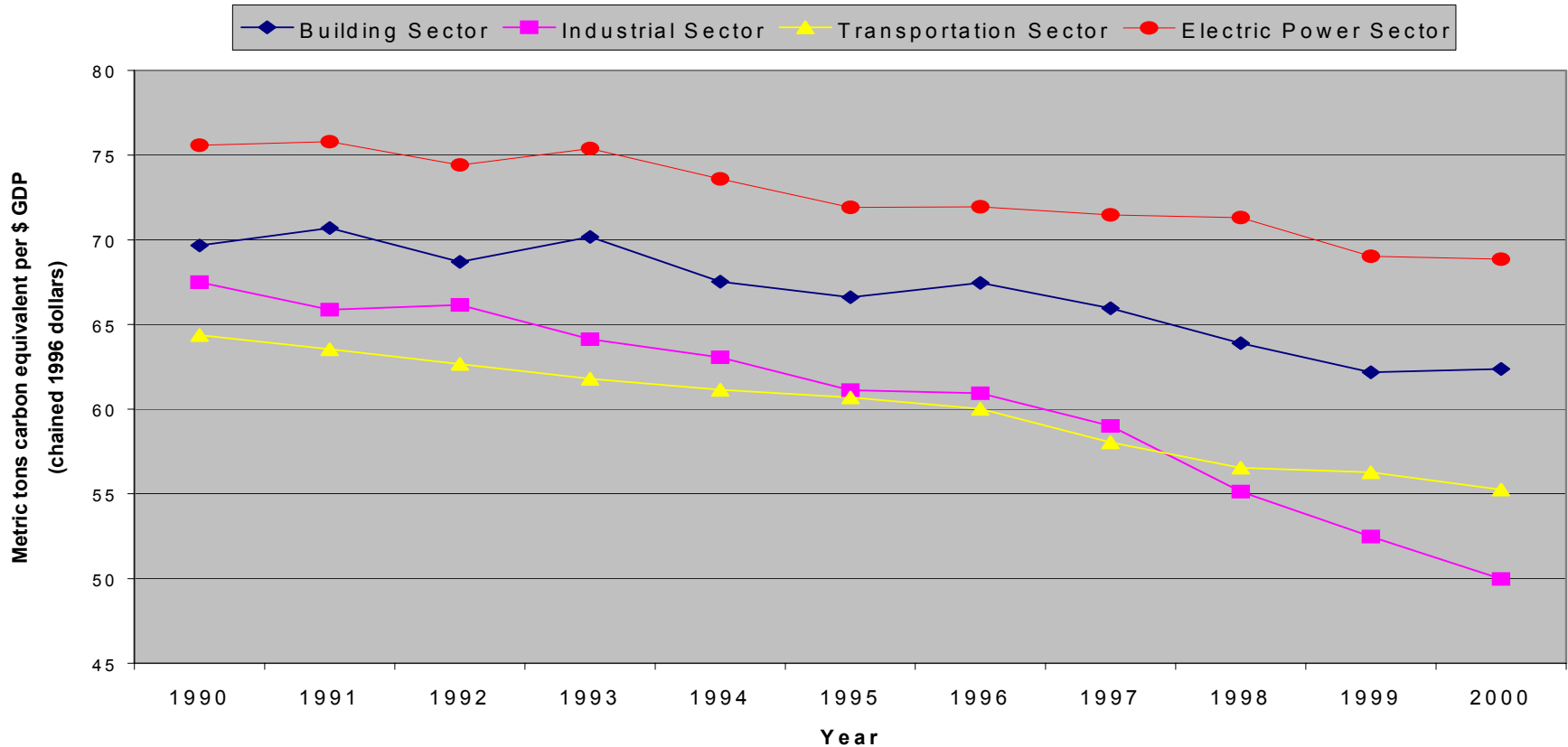
Source: Energy Information Administration (EIA) Annual Energy Review 2000, Tables 1.5, 2.1 a-f

- **Transportation: 45% reduction between 1949 and 2000**
- **All sectors have a downward trend except electric power sector**



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CO₂ Intensity by Sector (1990-2000)



Source: Emissions of Greenhouse Gases in the United States, 2000, Table 5, "U.S. Carbon Dioxide Emissions from Energy Consumption by End-Use Sector, Energy Information Administration (EIA) Annual Energy Review 2000, Table

- **Transportation: 14% reduction between 1990 and 2000**
- **All sectors have a downward trend**



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Ford Has Developed Programs That Save Money and Reduce CO₂ Emissions at Our Plants

- Landfill gas (methane) used by Wayne Stamping and Assembly Plants to produce heat and power
 - Plants' boilers burn a mixture of methane and natural gas
 - 3 generators produce 2.4 MW, 24 hours a day
 - Improves air quality by minimizing flaring of landfill gas



Ford Has Developed Programs That Save Money and Reduce CO₂ Emissions at Our Plants

- Rouge Plant Redesign
 - Brownfield redevelopment
 - Natural lighting and ventilation throughout
 - Will use solar cells, fuel cells, and other renewable energy sources
 - 500,000 sq. ft. living roof will reduce stormwater runoff and heating/cooling loads
- All Ford manufacturing facilities are ISO14001 certified



Ford Has Also Pioneered Energy Saving Technologies on Our Vehicles

- Alternative fuel vehicles
- Electric vehicles
- Hybrid electric vehicles
- Fuel cell research
- Advanced fuel vehicle research
 - Hydrogen, bio-fuels
- Voluntarily reduced F-series & SUV emissions to LEV levels 1-5 years ahead of regulations



Escape HEV



- On sale in 2003
- Nearly 40 mpg fuel economy in city driving
- SULEV/PZEV emissions
- V6-like performance



E85 Flexible Fuel Vehicles



- Taurus, Ranger, Explorer
- E85: 85% ethanol, 15% gasoline
- 29% reduction in lifecycle CO₂ emissions vs. gasoline vehicles using corn-derived E85
- 61% reduction in lifecycle CO₂ emissions possible using E85 from cellulosic biomass



Dedicated Natural Gas Vehicles



- F-150 Pickup, Crown Victoria, Econoline Van
- 20% reduction in lifecycle carbon dioxide emissions vs. gasoline vehicles



Th!nk City Electric Vehicle



- On sale in U.S. this fall
- Currently available through demonstration lease program in CA
- To be used for New York Power Authority/Metropolitan Transportation Authority “Clean Commute” program
- EV technology will transfer to more advanced vehicles (hybrid, fuel cell, etc.)
- Compact and lightweight for urban driving



Options for the Federal Government to Help

- Tax credits for purchase of advanced technology vehicles
- Alternative fuel infrastructure development incentives
- FreedomCAR funding
 - \$124.5 million included in Bush Administration's budget request



Options for the Federal Government to Help

- Purchase more “green” vehicles
 - Government environmental vehicle fleet programs can effectively decrease energy intensity in advance of regulations
 - Public awareness and trust of advanced technology vehicles are increased when vehicles are incorporated into high visibility fleets



Summary

- We have been successful – more is possible
- Reducing energy intensity is possible when:
 - it makes business sense
 - regulatory barriers are removed
 - governments provide incentives to jump-start new markets for innovative solutions
 - solutions are flexible and non-prescriptive

